## 6.5 Upper and lower limits [29P]

From the previous definition we move on to the definitions of *"limit superior"* lim sup and *"limit inferior"* lim inf. The idea is so expressed.

**Definition 6.37.** [20F]

**Remark 6.38.** [20G]

In particular, defining $l = \limsup_{x \to x_0} f(x)$, the previous formulas characterize exactly the "limsup".

**Corollary 6.39.** [20N]

We make them explicit further in what follows. (It is recommended to try to rewrite autonomously some items, by way of exercise).

**Proposition 6.40.** [OBK]

**Remark 6.41.** [OBM]

**Remark 6.42.** [OBN]

### Exercises

E6.43 [OBP]

E6.44 [OBQ]

E6.45 [29R]

E6.46 [29S]

E6.47 [29T]

Other exercises on limits of sequences can be found in Sec. [OCN].

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